

Abstract

A system is developed for real time delivery of rich Java applications over thin-wire with high performance and extreme scalability. The benefits of the system are:

1. No code modification is required for existing Java applications.
2. High performance computing over low bandwidth or long latency network connections;
3. Compatible with existing Java application server environments;
4. "Develop Once, Deploy Anywhere": the same Java application can run over many different kind of client devices from PC to PDA to Handheld computers, without re coding;
5. Java applications running on this system will be extremely scalable. A single server can handle thousands of users.

This document provides a sample implementation of the system. A presentation and communications architecture for enabling highly interactive, real-time, rich networked applications is presented. This architecture enables network applications to be as rich, interactive as locally-installed client/server applications without the heavy downloading/installation requirements that come with such client/server applications. Using this approach, applications can be delivered to a browser, a remote desktop environment, or a wireless edge device, with transmitting only a few kilobytes of data, but still perform equally well as client/server applications. Importantly, this approach enables existing Java applications to be used without modification while delivering the above mentioned benefits. Additional benefits include enabling the same application to run from various devices in an adaptive fashion that delivers the best user experience in each specific device environment.